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ABSTRACT

This position paper examines the important role of the principal in instruction, the importance of community to learning in rural settings, and a model of learning that engages the child and teacher in an experiential mathematical mode. The principal's influence on student achievement is indirect and proceeds from the principal's roles as resource provider, as curriculum and instructional initiator and supporter, and as a catalyst in the political arena for expanding opportunities to explore different methods of learning. In rural schools, the principal can link a generic curriculum to the local community's values and concerns. When a school privileges the concerns of its community in the way it operates and in its curriculum, local people recognize the school as an institution belonging to and serving the community. Such connections contrast with the nationalization of curricula and practices, enforced by high-stakes testing, which, in poor rural schools, often leads to unimaginative, repetitive instruction. In the context of rural mathematics instruction, principal-teacher partnerships can seek resources and develop approaches to contextualize mathematics teaching and learning to the rural context. Expeditionary learning helps teachers create an intellectually challenging, integrated curriculum that allows students to study a topic in depth, forge connections with and be of use to their community, and collaborate to transform themselves into a learning community. Strategies by which principals can support such approaches to rural mathematics teaching and learning are outlined, and potential related research questions are listed. (SV)

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The Principal as Instructional Leader: A Position for Enhancing Mathematics Learning in Rural Schools

Working Paper No. 8

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March 2003

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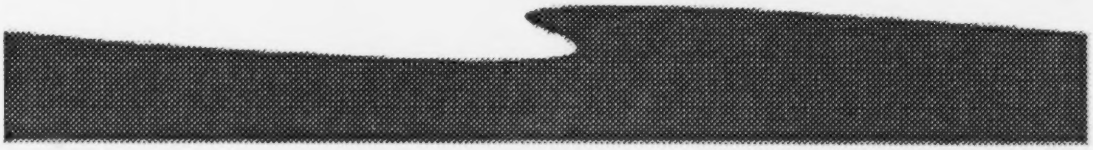

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THE PRINCIPAL AS INSTRUCTIONAL LEADER: A POSITION FOR ENHANCING MATHEMATICS LEARNING IN RURAL SCHOOLS

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Introduction

People often think the role of the principal is simply to manage the school without providing input into academic matters. Lack of direct input (such as teachers) in the classroom does not result in lack of input; rather, the input is more indirect and can play a powerful role in the life of a child. In rural schools, the principal can become a vital link between a generic curriculum – developed for suburban schools – and ' the teacher, the child, and the local community.

The role of the principal in such a situation is indirect and is one of resource provider, curriculum and instructional initiator and supporter, and as a catalyst in the political arena (school, district, community) for providing opportunities to explore different methods of learning. This position paper addresses three areas: the important role of the principal in instruction, the importance of community to learning in rural settings, and a model of learning that engages the child and teacher in an experiential mathematical mode.

Administrators and Their Power

In a nested organization such as schools, administrators in middle management are at once superordinate and subordinate. The educational setting contains many middle-management positions, but the two most often found in districts, regardless of size or degree of rurality, are the superintendent and the principal. The superintendent is subordinate to the school board while being the superordinate for principals, teachers, and other personnel. The principal is subordinate to the superintendent, serving as the administrative link between teachers and the superintendent, while being superordinate to the teachers. Moser (1957) states that superintendents and teachers expect different styles of leadership from principals: "the principal is in a delicate leadership position as a member of two organizational families" (p. 4).

Interactions among members of an organization serve as the essence of the organization. Duckworth (1984) suggests that a model of "mutual, simultaneous shaping" exists in organizations, indicating that each leadership interaction causes a rippling effect, both forward and backward, along the chain of command. Hart (1993) defines interaction as the "overt actions (including language), covert deliberations and plans, and physical presence and gestures of one person that influence others in a continuing cycle of exchange and communication" (p. 91). This cycle of interactions is displayed in the very nature of nested organizations, interconnecting individuals in all layers.

The Principal's Role in Student Achievement

One of the major functions of principals is to provide resources for the school through contact with the central office. Conversely, the central office must communicate rules and

regulations monitored by the principal. Teachers require resources, support, and information, much of which must be provided by the superintendent and relayed through the principal (Blau & Scott, 1962). When the superintendent requires information from teachers, it is usually relayed through the principal. Principals and teachers often serve as a buffer between the superintendent and such vocal groups as parents (Bolman & Heller, 1995; Boyan, 1988).

The principal is an integral part of the school and affects a variety of factors within the school. Bossert (1982) states that, "principal behavior directly affects patterns of climate and instructional organization." Since organizational climate is considered by researchers such as Bossert (1982), Boyan (1988), and Duckworth (1984) to be a mediating factor in the effectiveness of schools, those interactions that affect climate must be considered important in the academic life of the school.

Mediating factors are those factors that indirectly affect an outcome as a third variable. For example, Keeler and Andrews (1963) studied principal leadership behavior as it affected staff morale and the level of student achievement. While the principal's impact upon teacher morale does not directly relate to achievement levels, it plays a role by mediating teacher morale that is then related to achievement levels.

Researchers call for more analysis of this relationship (Bossert, 1982; Duckworth, 1984). Hart (1993) posits that the "social relationships between formal leaders and their hierarchical subordinates and superordinates play an important part in their influence on the school" (p. 9). Hart states that people attribute cause to themselves and to powerful people in their social group. People may act on these attributions and create effects based on their perceptions.

To that end it is important to understand how social behavior has an effect on the whole population of the school. Turner's Unified Theory of Interaction (1993) presents social behavior within organizations as sets of overlapping interactions that constantly influence and change the behaviors, not only of direct participants in the interaction, but of those who observe the interactions and interpret them. Turner's theory seeks to unify interactions and the effects rather than to study them in isolation. "In the interaction process, people signal a course of behavior, interpret their own signals, and interpret the signals of others. They then act in response to their interpretations, and the cycle repeats itself" (p. 95).

Bossert's (1982) model of the principal's influence on student learning portrays the relationship of principal behavior to student learning as one with mediating variables serving as a connection. These mediating variables are organizational climate and instructional organization (teacher assignments, curriculum, class structure). The principal's behavior results from a combination of personal, district, and external characteristics such as community organizations, contacts, or pressures. The model presents principal behavior as directly affecting school climate; therefore, Bossert argues, the principal indirectly affects instructional effectiveness. Bossert (1982) posits that the principal operates through activities and influence, a combination that directly affects climate and instructional organization, two aspects of social organization in schools.

In this vein, hierarchical influence is the ability of a principal to gain positive influence with the superior for the benefit of the school. This ability indicates the principal's skill at negotiating and appropriating resources of diverse types for the school. Principal influence with the superintendent also reflects the principal's ability to sway

decisions of the superintendent that affect the school. The principal provides an indirect effect on academic matters by using influence upwardly. Further, the degree of control that teachers want the superintendent to exercise over the principal depends upon the teachers' perceptions of the principal's effectiveness, as well as teachers' agreement with the principal's goals and beliefs for the school (Hoy & Miskel, 1991).

Another component in this discussion is the importance of community to student life. By setting the context in which principals, teachers, and students live and work, greater understanding can be derived as to the role each takes in that life and work.

Education and Community

Tightly knit relationships characterize life in many, if not most, rural places, and this circumstance makes the connections between learning and community especially important – perhaps more important than elsewhere. Community values are embedded in school every day – in the questions students ask and in those posed by teachers to students. Not surprisingly, therefore, a rural community's values are reflected in how its schools operate and what they teach (cf. Sergiovanni, 1994).

Values are translated into a common approach to learning within the school. The diploma is not merely a certificate of knowledge, but perhaps also demonstrates the nature of the person; it is a concept laden with connections to the community and its prevalent values. Indeed, this connection shows that community is not merely a theoretical ideal but also one that can work in practice.

What is the viewpoint of the author of this work? What constitutes these connections: people or events? Which came first? When we say we *know* something,

what are we using as evidence? Once we know all these things, so what? Who will care? The subsequent sections of this paper consider these issues.

Community and Curriculum

If a school develops and sets guidelines that shape daily and long-range decision making, it can better answer those concerned members of rural communities who ask why teachers teach what they teach. Moreover, curriculum developed by people involved with and from the community, rather than imposed from a remote and largely unknown source, can contribute to a rural community's vitality. When a school privileges the concerns of place (that is, the local concerns of local rural people) in the way it operates (its procedures) and its curriculum (its learning content), rural people recognize the school as an institution belonging to, and quite possibly *serving*, the community.

Curriculum is too often separated from the ideas of *teaching* and *learning*, obscuring the connections that link the three. Learning and teaching are processes, not fixed (or static) products. A community-focused curriculum allows learners to connect what they learn with the what, how, and why of real life. Curriculum is the map and substance within which the processes of teaching and learning flow. Only by knowing what, how, and why in relation to curriculum can a real community articulate itself to a "community of learners."

Community and the Importance of Place

DeYoung (1994) offers another view on the importance of the sense of rural place. In the nineteenth century, schools were funded based on the assumption that they would be

valued only when located close to the people. Schools served as a symbol of the local community. Today, claims DeYoung, the situation is almost the reverse: state and national officials view schools as curriculum dissemination centers; the task of the school is to prepare rural kids to leave their locality.

Often educators fail to recognize the changed in role of schools brought about by the actions of state agencies, university teacher preparatory programs, and the federal agenda. This failure leaves the public without local interpreters capable of accounting account for the divergence of local expectations and goals from those imposed by distant professional leaders and policy makers. The lack of awareness and understanding puts local people at a distinct disadvantage. This interpretive vacuum, in fact, widens the prevailing distance, founded on the economic inequity that *already* separates local from state and federal actors. The nationalization of curricula, methods, and practices in schools also contributes to the separation of local purposes from schooling, and helps restrain professionals who might otherwise seek to develop local connections as a matter of curricular substance.

Accountability Testing and the Curriculum

The rise of high-stakes testing for accountability has, some observers charge, led to the constriction of school curricula – most particularly for poor and working-class rural students. Too often, it seems, students (especially impoverished, working-class, and low-performing students) are intensively drilled for testing, a preoccupation that gives them less time to encounter and engage ideas. By contrast, an integrated, broadly educative curriculum requires educators who understand and embrace complexity and ambiguity – in

content as well as instructional approach – in mathematics at least as much as in any other subject.

In my experience in rural Louisiana and rural Ohio, what one finds in rural schools that serve poor, working-class students, however, is curriculum that is increasingly scripted and externally controlled, out of the hands of teachers and principals. Low-performing students (those whose performance is identified as the source of jeopardy for a school's accountability rating) receive repetitious and unimaginative instruction in the vain hope that the tactic will enhance the school's marginal performance in the accountability tally. The major problem with this tactic is that it takes an impoverished view of learning; the tactic, in fact, probably helps to disable long-term improvement by constructing short-term, marginal gains as a valuable instructional goal. This situation is clearly not the one envisioned by the creators of such national standards as those developed by the National Council of Teachers of Mathematics.

The Principal, the Community, and Mathematics in Rural Schools

Although teacher preparation programs promote a variety of teaching techniques, most programs neglect the instructional and curricular influence of the principal. Not surprisingly, therefore, preparation programs also neglect the need for teachers to work in partnership with principals. In the context of rural mathematics instruction, such partnerships would to seek resources to contextualize mathematics learning and teaching to – the rural context, develop opportunities to expand learning environment approaches that tie mathematics learning to the local community.

Mathematics education in the United States is based on the NCTM *Standards* (NCTM, 2001) as well as teacher practices that have evolved over time from a traditional, linear mode of instruction to a more experiential mode. The *Standards*, in other words, cannot be understood as having been invented wholesale, nor as the result principally of the findings of "cognitive science." Fortunately, the *Standards* do acknowledge the key role of the principal in helping to develop community connections (NCTM, 1991, Standard 2, ¶ 10):

> Mathematical power must be a concept to which we commit for *all* students, not just for the privileged few. This requires a commitment from the school and community for adequate funding to support the teaching and learning of mathematics. However, in order for the community to be supportive of the mathematics program they must know what the program goals are and must understand the kind of support needed by teachers to carry out the program. Here the school administration, especially the principal, is key. Principals who take the time to work with their teachers in developing a coherent, powerful mathematics program and, further, take the responsibility to be the advocate for the teachers to the community can make it possible for teachers to teach and for students to learn as envisioned in the *Curriculum and Evaluation Standards for School Mathematics* and in these *Professional Standards for Teaching Mathematics.*

Nelson (1998) offers interesting insights as to the possible impact a principal may have on mathematics instruction. Nelson concludes that a principal needs to have a

mindset conducive to good mathematics instruction. Implicit in such counsel, however, may be the assumption that principal preparation should build on the right mindset for mathematics, but also for all the other subjects – a preparation strategy that hardly seems practicable. Principal education *already* must cover a broad range of content (e.g., financial management, human resource management, politics and policy, student interactions, organizational structure and management, and school law). It would appear to be unwieldy, in addition, to specialize principal preparation by discipline.

It is my position, however, that greater learning takes place when mathematics – like other subjects – is taught *not* as an isolated specialization, but "integrated" with reading, writing, science, and social studies. Integration (teaching the various subjects with and through each other) also gives teachers the chance to deploy varied and expansive instructional formats capable of connecting children to their local communities (e.g., projects, data collection, internships and mentoring arrangements, service learning, and so forth). This style of pedagogy allows teachers to serve as facilitators and guides on the *adventure of learning*. In the end, such a conception answers the problem of the previously mentioned short-term tactic for dealing with accountability requirements by "nibbling" at the margins of test score distributions. Not only will subject integration supply instructional contexts in which connections between school and community can develop, I contend that it focuses on raising accountability scores for the long term.

Most principal preparation programs are, interestingly, structured for professionally active teachers. The programs generally recruit the *working professional* as student, instead of reconstructing the professional as a full-time student. The standards that govern the profession, (i.e., those promulgated by the Interstate School Leaders Licensure

Consortium, ISLLC), recognize the importance of instructional leadership, but also acknowledge the constraints of time that govern the activities of practicing principals. While it might arguably be beneficial to have an instructional leader for each discipline in every school in the nation, there are actually many reasons to resist such specialization. Practically, however, such a project has proven organizationally impossible for small, rural districts and financially impossible among impoverished districts and schools everywhere.

Principals, in short, have many reasons to cultivate good working relationships with the teachers in their buildings, to work with those teachers in a team format that encourages easy access to information and the ability to communicate honestly with each other, and to provide opportunities for teachers in different discipline areas to communicate with each other and recognize the importance of areas beyond their own. Principals, in the end, must structure the learning and teaching environment for actual people, and not for remote and disparate disciplines.

The principal can play a productive role in shaping the learning and teaching environment in many ways: by understanding and appreciating the importance of mathematics to the life of the community and its children; by organizing and sharing resources of all sorts with teachers, parents, and – most importantly – students; by encouraging teachers' use of experiential learning techniques; and by becoming actively involved in the learning experience as a partner with both teacher and student. In order to illustrate the feasibility of such a scheme, consider "expeditionary learning."

Expeditionary Learning

The purpose of expeditionary learning is to help teachers create an intellectually challenging curriculum that allows students to study a topic in-depth, to collaborate on projects and products, to forge connections with actual communities, and to be of use to that community. The teachers and students also transform *themselves* into a community, a "community of learners," each person playing multiple roles, as they all learn about a topic and join forces to consider and to express their views of the topic to the appropriate audience.

The idea of purposeful learning is both simple and powerful. Having purpose – an authentic audience, a critical or "charged" issue – helps supply students with reasons to read and write and to develop deep understandings. This purpose – collectively making sense of a charged issue – not only creates a need to know and represent, it infuses the process of meaning-making with emotion. Thus, the participants discover that two crucial ingredients for powerful learning are purpose and emotion.

A critical attribute of service-learning expeditions is connection with the local community. To engage in any issue or topic that is a concern of a local community requires civic courage on the part of the teacher. This courage becomes one aim for students as they embark on and become engaged in the issue or topic. Teachers cannot avoid complexity and ambiguity when they choose to teach through a service-learning expedition: instead they must use complexity and ambiguity as a framework to make visible previously unseen and unheard perspectives that have been hidden by ideas and voices of the dominant culture. It is in seeking these multiple perspectives that students come in contact with the tensions, say, of individual rights and the common good.

This approach to teaching and learning comes out of Expeditionary Learning Outward Bound, a program of school reform and design that engages teachers as curriculum makers and intellectuals, and students as critical thinkers and active participants (. Teachers who use Expeditionary Learning do so because of a commitment to local issues of place, to the building of community both in the classroom and out, and because of the habits of mind expeditions forge in young people: meeting challenges, solving problems, and negotiating through difference. Learning expeditions strive to engage students' intelligence and curiosity through challenging content and teaching, providing an ethos where reflection, respect, dialogue, and perseverance are all the norms. (To learn more about Expeditionary Learning, visit the EL web site at the following URL: http://www.elob.org/index.html.)

How the Principal Can Interact with Mathematics Learning

What steps can principals take to develop a school with the capacity to develop and sustain a climate in which mathematics teaching and learning can thrive, in view of the approach outlined above? The first thing to recognize is that such actions need not – should not, in fact – be principally about mathematics. Indeed, the sort of pedagogy underlying good mathematics instruction is widely needed across the curriculum. On this view, then, the principal can...

1. cultivate a shared vision of mathematics teaching and learning with teachers, parents, students, the superintendent, the school board
2. help superintendent and board take a long-range view of accountability so that decent pedagogy can thrive in the school and community;

3. facilitate a school climate that encourages teachers to use alternative methods of learning and alternative environments for learning;

4. undertake professional development that enhances his or her own ability to participate in student learning;

5. sponsor teacher professional development that addresses alternative methods of learning and alternative environments for learning;

6. seek resources to support #1 and #2 (above), perhaps from some combination of district, business, and community sources;

7. join students and teachers in experiential learning activities;

8. foster community involvement by communicating with local individuals, clubs, associations, and businesses;

9. build (with both attitude and resources) an academic climate that generates integrated approaches to learning; and

10. lead a variety of efforts to value the local community (e.g., fostering connections to both the academic and social life of the school).

Kincheloe's Standards of Complexity

Principals can explore their role in these issues with the help of Joe Kincheloe's Standards of Complexity, a framework to examine experiential learning both for students and adults (see, e.g., Kincheloe, Slattery, & Steinberg, 2000). Educators can use the standards to ask whether or not experiential learning programs:

1. are grounded on an understanding of complexity and ambiguity;

2. demonstrate complex reflection – an awareness of educational purpose;

3. show epistemological complexity – new ways of conceptualizing educational practice;

4. understand complexity in the evolving knowledge culture – the necessity of knowledge work; and

5. push the boundaries of humanness – complexity leads to new forms of human possibilities.

Schools structured as a community of learners offer a positive organizational model that values all the members of that community. There are, of course, a variety of ways to construe "community." *Community of place* is especially applicable in rural schools, which have real communities at their center. This version of "community," as well, is widely appropriate for American schools since about half the public schools in America are located in rural places or small towns.

People constitute the benefits said to flow from community. When a real community (a community of place) fashions common values and beliefs about the purpose of schools, it provides a natural system that surrounds children with a comfortable environment in which to learn and develop individually and as members of a larger society.

Conclusion

The growing reliance on drill and practice (ostensibly in order to raise test scores) would seem (not surprisingly) to weaken critical-thinking skills further – the very skills that developers of standardized tests (and makers of standards) have warned are *already* weak among students, especially poor, working-class rural students. Is the contradiction some strange mistranslation of policy or does it represent the status quo reproducing itself? If not the latter case, then, we need a better explanation for why upper-middle-class

students receive an intellectually invigorating curriculum while poor, working-class rural students receive an unimaginative, stultifying one.

Those of us in poor, working-class rural schools – and those of us working with educators in schools as well as university programs to prepare teachers and principals – must battle a lethargy that leads to passivity when confronted with external pressures to learn state-mandated knowledge, not even for its own sake, but to appease accountability systems that often seem vindictive (especially in the case of impoverished, working-class rural schools). If we do not join this battle, schools will, I fear, find themselves more distant than ever from the only communities that can properly sustain them. After all, the proper mission of educators (including parents and communities) is to provide a learning environment in which children can thrive academically and socially (Romano & Glascock, 2002).

Potential Research Agendas

While this paper is more of a position paper than I had perhaps intended it to be at the outset, the discussion does suggest to me some broad questions that researchers might address in their consideration of mathematics education in rural places. Among these are the following:

1. To what extent do principal preparation programs serving rural areas address instructional leadership broadly relevant to mathematics education as compared to programs that prepare candidates for suburban settings?

2. To what extent do principal preparation programs and teacher preparation programs located in rural versus suburban areas prepare teachers and principals to work collaboratively together? What recommendations might be drawn for those interested in developing such programs, particularly as regards mathematics education in rural communities?
4. What do rural principals and teachers know and do in establishing mathematically relevant connections with rural communities (i.e., *community connections as a feature of instructional leadership in mathematics education*)?
5. What is required conceptually to lay the groundwork for subsequent development of instructional materials to implement experiential, place-based mathematics pedagogy, such as the Expeditionary Learning Model?

References

Anyon, J. "Social Class and the Hidden Curriculum of Work," *Journal of Education 162*, no. 2 (1980): 67-92 and "Social Class and School Knowledge", *Curriculum Inquiry 11*, no.1 (1981). 3-42

Campbell, M., Liebowitz, M., Mednick, A., & Rugen, L., Eds. *Guide for Planning a Learning Expedition: Expeditionary Learning Outward Bound.* (Dubuque, IA: Kendall/Hunt, 1998).

DeYoung, A. "Children at Risk in America's Rural Schools: An Integrated Review and Commentary" *Review of Educational Research 5* (1994).

Donahue, D. M. "Service-Learning for Pre-Service Teachers: Ethical Dilemmas for Practice" *Teaching and Teacher Education, 15*, no. 6 (1999) 685-695.

Gaventa, J. *Power and Powerlessness: Quiescence and Rebellion in An Appalachian Valley.* (Urbana: University of Illinois Press, 1982).

Kincheloe, J., Slattery, P., & Steinberg, S. Contextualizing Teaching. (New York: Longman, 2000).

Kozol, J. Savage Inequalities: Children in America's Schools. (NewYork: Crown, 1991).

Meier, D. *The Power of Their Ideas.* (Boston, MA: Beacon, 1995).

Meier, D. Will Standards Save Public Education?" In New Democracy Forum Series (Boston, MA: Beacon, 2000).

National Council of Teachers of Mathematics. (1991). *Professional standards.* Author: Reston, VA. (Cited passage retrieved February 3, 2003 from: http://standards.nctm.org/Previous/ProfStds/SupDev2.htm)

National Council of Teachers of Mathematics. (2000). *Principles and standards for school mathematics.* Author: Reston, VA. (Cited passage retrieved February 3, 2003 from: http://standards.nctm.org/Previous/ProfStds/SupDev2.htm)

Nelson, B. (1998). Lenses on learning: Administrators' views on reform and the professional development of teachers. *Journal of Mathematics Teacher Education, 1,* 191-215.

Romano. R. M. *Forging An Educative Community: The Wisdom of Love, the Power of Understanding, and the Terror of It All.* (New York: Peter Lang, 2000).

Romano, R. M., & Glascock, C.H. *Hungry Minds in Hard Times.* (New York: Peter Lang Publishing, 2002).

Sergiovanni, T. *Building Community in Schools.* (San Francisco, CA: Jossey-Bass, 1994).

Sidorkin, A. "The Labor of Learning," *Educational Theory 51,* no 1 (Winter 2001).

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